



PYTHON DEVELOPMENT AND DATA SCIENCE IMMERSIVE



Overview

Learn to use Python programming to create robust prognostic models. Build confidence and reliability to challenge complex machine learning problems on the job.

Ever wondered how the Amazon suggests the items “you may also like” or how Netflix recommends movies? These functionalities are driven by teaching a computer how to learn using large data sets.

Tech Studio Academy’s Python Development and Data Science Immersive course is a hands-on introduction to data science and machine learning. You will learn to use the Python programming language to obtain, analyze, and model data, refining predictions to impact business strategy. This is a practical approach to allow you to build robust predictive models of real-world data and test their validity.

Through this expert-designed curriculum, you’ll learn to:

- Perform exploratory data analysis with Python.
- Build and refine machine learning models to predict patterns from data sets.
- Complete hands-on exercises to reinforce newly learned skills.
- Dive deeper into topics and techniques using real-world data sets.

What You'll Learn

Part 1. Overview of Data Science

- What is Data Science?
- Solving Problems with Data Science
- Tools for Learning Data Science
- Prerequisite for Learning Data Science
- Pros and Cons of Data Science

Part 2. Demystifying Python

- Introduction to Python
- Python Environment Setup
- Features of Python
- Reasons to Learn Python
- Benefits and Limitations of python
- Applications of Python
- Installing Python
- Command Line Basics
- Getting to Know the Python Interpreter
- Basic Python Syntax (Variables, Reserved words, Statements, Indentation, and Comments)
- Numerical Expressions
- Data Types
- String Handling

Part 3. Data Structures in Python

- Lists (List Comprehension, Arrays)
- Tuples
- Dictionaries
- Sets in Python
- Slicing
- Booleans

Part 4. Built-In Functions and Methods

- Examples of Built in Functions
- Examples of built in Methods
- Methods for Python Strings
- Methods of Python Lists
- Methods for Python Dictionaries
- Booleans

Part 5. Conditionals and Loops

- Operators Precedence
- Booleans and Comparisons
- If Statements
- Else Statements
- For Loops
- While loops
- Switch
- Range and Xrange
- Build a Simple Calculator

Part 6. Basic Input and Output

- Input Strings and Numbers
- Output of Strings and Numbers

Part 7. File Handling in Python

- Reading and writing files in Python
- Managing Directories and Files in Python
- OS Module
- Shutil Module
- Copying Files with Python
- Renaming Files with Python
- Zipping Files with Python

Part 8. Python Syntax and Best Practices

- Important Best Practice in Python
- Structure of Python Project
- Documentation
- Style Guidelines

Part 9. Python Exception Handling

- Errors and exceptions in Python
- Python Exception Handling
- Testing with Unit Test in Python

Part 10. Working with JSON in Python

- Writing JSON
- Reading JSON

- JSON Manipulations

Part 11. Functions and Modules

- Function Definition
- Building your Functions
- Arguments, Parameters
- Return Values
- What are Modules?
- importing of Modules in Python
- Creating modules
- Executing Modules as a python Scripts
- Python Dir() function

Part 12. Object Oriented Programming

- Classes
- Inheritance
- Magic Methods
- Data Hiding
- Class & Static Methods
- Properties

Part 13. Database, SQL and Python

- What is a Database
- Types of database
- SQL and its Syntax
- Postgres
- Key features
- SQL Statements
- CRUD operations
- Connecting Postgres to Python
- CRUD operation with Python

Part 14. Web Scraping

- Selenium
- Simple Usage of Selenium
- Why web Scraping?
- Web Scrapping
- Why Python for Web Scrapping
- How does web Scraping work?
- Libraries used in Web Scraping
- Demo: Scraping Flipart website

Part 15. Version Control with Git and Github

- What is Version Control
- Benefits of Version Control
- How does version Control works?
- The Work Flow
- Creating your own Repository and Project Folder structure
- Github Etiquettes

Part 16. Data Analysis Fundamentals

- Numpy
- Pandas
- Csv

Part 17. Data Visualization

- Matplotlib
- Installation
- Getting Started with Pyplot
- Multiple Plots in one figure

- Creating Different types of Graphs with Pyplot
- Summary

Part 18. Python Advanced Concepts

- Regular Expressions
- Virtual environments and Packages

Part 19. Various Application of Data Science

- Banking
- Finance
- Manufacturing
- Transport
- Health Care
- Ecommerce

Part 20. Open Cv and Its Application

- Overview and Installation of Open Cv
- Work with Images & Windows in OpenCv
- Edit Images with OpenCv

Part 21. Introduction to Machine Learning

- ML basics
- Overview of ML Algorithms
- Supervised and Unsupervised Model

Part 22. Data Pre-Processing in Machine Learning

- How to Preprocess for accurate analysis
- How to compute Missing value

- Categorical data

Part 23. Machine Learning Algorithms

- Regressor
- Classifier

FAQs

Why Is This Course Relevant Today?

A huge number of companies use data science to tackle today's challenges, confronting tasks from public policy to eCommerce and dating. As a result, organizations and businesses are building in-house teams of analysts and data scientists, and there's not enough talent to go around.

According to the research by [Burning Glass](#), "Data science and analytics skills are now widely in demand in decision-making roles, including managers across a range of industries. In fact, our data shows that more than 1.7 million job postings asked for data science skills in 2018." Therefore, Data Science is the future-proof skill that can help you enter the next stage of your career.

Will I Earn a Certificate After Completion of the Course?

Yes! You will receive a signed certificate of completion upon passing this course, you will receive a signed certificate of completion. You can use this certificate to demonstrate skills to employers and their networks.

Should I Come Equipped With Anything?

Yes, a laptop is required (either Mac or PC) with a minimum of 4GB RAM with a storage capacity of at least 250GB. The course will walk you through installing the necessary free software.

At least, you'll require basic secondary school mathematics, but no previous programming language experience is required.

What Can I Expect To Accomplish At the End of This Program

By the end of this course, you'd have

- ✓ Completed several individual and group projects
- ✓ Learned about web development from experienced web developers
- ✓ Prepared yourself with the foundational knowledge you need to begin a career that embraces continuous learning

What Does This Program Cost?

The cost of the program is **₦150,000**.

All forms of payments – USSD, bank transfer, bank deposit, and cash payment – are accepted.

The payment can be paid in full or in two installments – 60% before the program starts and the remaining 40% before the middle of the program

All proofs of payment should be given the receptionist and a payment receipt should be requested. Payments are accepted before the start of the program. Payments should be made to the following account details:

Bank: GTB

Account Name: Strategic Dots Digital Solutions

Account No. 0174735479.



Contact

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